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| 09/614,617      | 07/12/2000  | Jonathan D. Courtney | SUN1P505            | 2371             |

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| EXAMINER |
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DEMICCO, MATTHEW R

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| ART UNIT | PAPER NUMBER |
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2611

DATE MAILED: 02/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/614,617

Applicant(s)

COURTNEY ET AL.

Examiner

Matthew R Demicco

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16, 19-21 and 24-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16, 19-21 and 24-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

1. This action is responsive to a Request for Continued Examination filed 8/10/04. Claims 1-16, 19-21 and 24-26 are pending. Claims 17-18 and 22-23 are cancelled. Claims 1, 5-16, 19, 21 and 24-26 are amended.

### ***Response to Arguments***

2. Applicant's arguments with respect to claims 1-16, 19-21 and 24-26 have been considered but are moot in view of the new ground(s) of rejection. The Examiner points out that while Applicant has disclosed creating private IP addresses on the receiver to be mapped to each of the received multicast IP data streams in the specification, the broad claim language does not preclude other interpretations. Applicant is advised to clarify the language of this mapping procedure as it pertains to the receiver device in the claims.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-4, 6-12, 14-16 and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,240,555 to Shoff et al. in view of U.S. Patent No. 6,459,427 to Mao et al.

Regarding Claim 1, Shoff discloses a method for identifying a data stream (Col. 6, Lines 7-15) in a digital television receiver (See Figure 5, Col. 4, Lines 14-25 and Col. 7, Lines 9-25) comprising obtaining a locator adapted for identifying a data stream (Col. 6, Lines 7-56), associating the locator with one of a plurality of data streams (Col. 7, Lines 51-60), each of the plurality of streams being associated with one of a plurality of television channels (Col. 10, Lines 18-33). Further disclosed is enabling a tuner to read one of the plurality of data streams associated with the locator (Col. 10, Lines 18-30). Shoff discloses that the supplemental content may be embedded in the video stream or on a separate channel, accessed by the tuner as stated above (See Figure 4, Network 74). Further, the supplemental content may be hosted on a separate Internet service (80) over a second network (82) via a modem (Col. 7, Lines 9-11, 26-50 and Col. 8, Lines 14-18). This reads on the claimed first set of one or more IP addresses (website locations/URLs) identifies one or more network interface cards (modem). Shoff also discloses that an interactive content locator may indicate a target specification such as a pointer to the head-end or a hyperlink (Col. 9, Line 20-29) and that if the content locator points to a video stream transmitted with supplemental content together (Col. 10, Lines 18-19). This reads on the claimed reading one of the plurality of data streams (the data embedded in the video stream) by a tuner (98) upon determination that its address (pointer to it's location) corresponds to a locator identifying a data stream. Shoff also discloses reading data from a network (82) by a network interface card (modem) upon determination that the address corresponds to a URL or Internet location (80 and Col. 10, Lines 30-33) instead of a video programming stream. This reads on the claimed reading data from a

network by a network interface card identified by an IP address upon determination that the IP address does not correspond to a locator identifying a data stream.

What is not disclosed, however, is that the data stream is a multicast IP data stream, mapping the locator to an IP address, or a second set of IP addresses identifying one or more multicast data streams. Mao discloses a method of transmitting data (Col. 4, Lines 33-46) through a digital TV network (Col. 4, Lines 1-4) using an MPEG transport stream with encapsulated IP (Col. 7, Line 63 – Col. 8, Line 3). Further, a program association table is disclosed which list which channels contain which data streams and their associated properties (Col. 8, Lines 9-19). Because the IP data is broadcast encapsulated within television channels, this reads on the claimed multicast IP stream. Further, the mapping tables reads on the claimed mapping the locator to an IP address thereby enabling the tuner to read one of the plurality of multicast IP data streams. Further, these IP-encapsulated data streams read on the claimed set of IP addresses identifying one or more multicast data streams. Mao is evidence that ordinary workers in the art would appreciate the ability to transport IP data inside television programming and using a program association table to identify which channels are linked to which addresses (URLs). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the embedded data stream in a television channel of Shoff with the IP-encapsulated MPEG data streams of Mao in order to allow the web browser software of Shoff (106) to access HTML data embedded in the MPEG video stream using a widely-accepted native transport protocol (IP) and watch television at the same time as disclosed by Mao (Col. 4, Lines 38-46).

Regarding Claim 2, Shoff in view of Mao disclose a method as stated above in Claim 1. Mao discloses using IP as a data transport for embedded HTML and provide a map associating the address to the channel as stated above. Because this address only exists within the confines of the digital television network, it can be considered a private network address. This reads on the claimed generating the IP address from a set of IP addresses reserved for use in private networks prior to mapping the locator to the IP address.

Regarding Claim 3, Shoff in view of Mao disclose a method as stated above in Claim 1. Shoff further discloses a locator transmitted from the head end to the user as stated above. It is inherent that such a computer-based system must receive and store this address in memory in order to be able to access it at a later time. This reads on the claimed instantiating a locator object.

Regarding Claim 4, Shoff in view of Mao disclose a method as stated above in Claim 3. What is not disclosed, however, is garbage collecting the locator object when it is no longer used. Official Notice is hereby taken that it is well known in any type of computer programming that objects, such as variables and methods take up space in memory. It is also well known that memory is finite, and therefore any objects must not be left "lying around" in memory and must be removed when no longer in use or else instability in the program may occur. This reads on the claimed garbage collecting of the locator object when it is no longer used. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method

of Shoff in view of Mao with the garbage collecting of the well-known prior art in order to prevent such a system from overrunning its memory resources and failing.

Regarding Claim 6, Shoff in view of Mao disclose a method as stated above in Claim 3. Shoff further discloses that the supplemental content may be packaged and transmitted together with the video stream as stated above. Further disclosed are providing video content programs (Col. 4, Lines 62-65) and other broadcast video signals (Col. 5, Lines 1-4) including enhanced content for each of the video streams (Col. 5, Lines 12-16). This reads on the claimed plurality of multicast IP data streams are associated with two or more of the plurality of television channels.

Regarding Claim 7, Shoff in view of Mao disclose a method as stated above in Claim 1. Shoff further discloses that the television network (74) may include the supplemental content (54) embedded in the program stream as stated above, to be accessed by a tuner (98). Mao further discloses the ability to access both programming and embedded content simultaneously as stated above in Claim 1. This reads on the claimed plurality of multicast IP data streams being associated with a single tuner.

Regarding Claim 8, Shoff in view of Mao disclose a method as stated above in Claim 1. Shoff further discloses that the head end is interconnected to subscribers (Col. 4, Lines 43-44), each with a set top box (Col. 4, Lines 22-25) coupled to a TV or a computer-based device as stated above. Because each subscriber device accesses the television network and enhanced content with a tuner, this reads on the claimed plurality of multicast IP data streams being associated with two or more tuners.

Regarding Claim 9, Shoff in view of Mao disclose a method as stated above in Claim 1. As stated above in Claim 2, the data stream uses a private IP address. Therefore, the program association table of Mao that maps the URL (IP address) to the channel reads on the claimed allocating a private IP address (as stated in Claim 2) to be mapped to the locator, wherein mapping includes mapping the locator to the private IP address.

Regarding Claim 10, Shoff in view of Mao disclose a method of identifying a data stream in a digital television receiver as stated above in Claim 1. Shoff further discloses allowing a user to select a data stream (Col. 9, Lines 30-41). As stated above, Shoff discloses a data stream locator, which provides the location of the enhanced content including a pointer to the data (See Figure 3). Further, Mao discloses a program association table for relating a channel to a URL (IP address). In conjunction with the IP multicast data embedded in the MPEG transport stream of Mao, the data stream locator of Shoff must be matched to the program table of Mao in order to locate the correct IP-encapsulated data stream. This reads on the claimed providing the data stream locator to an interface map, the map being adapted for mapping one or more data stream locators to one or more IP addresses and receiving the IP address associated with the data stream locator from the interface map. As stated above in Claim 1, a first set of IP addresses includes IP address associated with one or more data stream locators such that the first IP addresses identifies one or more multicast IP data streams associated with one or more television channels and a second set of IP addresses identifies one or more network interface cards, thereby enabling one or more tuners to read the data stream associated



with the first set of IP addresses and enabling the network interface cards to read data from a network.

Regarding Claim 11, Shoff in view of Mao disclose a method of selecting a data stream in a digital television receiver as stated above in Claims 1 and 10, wherein a locator is received that points to either a location on the television network or an Internet address on a second network. As stated above, the locator is mapped to an IP-encapsulated MPEG program stream. This reads on the claimed obtaining an IP address. Further, as stated above in Claim 1, a determination is made whether the address corresponds to a data stream locator associated with a multicast IP data stream or the Internet network.

Regarding Claim 12, Shoff in view of Mao disclose a method as stated above in Claim 11. As stated above, a user is operable to instruct the receiver to receive the data associated with the multicast IP data stream. This reads on the claimed instruction the tuner.

Regarding Claim 14, Shoff in view of Mao disclose a method of identifying a data stream in a digital television receiver as stated above in Claim 12. What is not disclosed, however, is instructing a tuner that is currently unused to read the multicast IP data stream associated with the data stream locator. Official Notice is hereby taken that it is well known in the art that a user's receiver may be turned off prior to the user requesting the display of a channel and subsequent multicast IP stream. This reads on the claimed instructing a tuner that is currently unused to read the multicast IP data stream associated with the locator. Therefore, it would have been obvious to one having ordinary skill in

the art at the time the invention was made to allow a user to power off their receiver when it is not in use in order to conserve power and prolong the life of the equipment.

Regarding Claim 15, Shoff in view of Mao disclose a method of identifying a data stream in a digital television receiver as stated above in Claim 11. Mao discloses a URL corresponding to a data stream locator associated with a multicast IP data stream as stated above. The URL reads on the claimed IP address. Because the data stream is associated with and embedded in a television program, the data stream only exists for a specific duration of time. When the program ends and a particular IP-encapsulated data stream subsequently becomes unavailable, this reads on the claimed releasing the IP address for future use when the IP address is no longer being used.

Regarding Claim 16, Shoff in view of Mao disclose a method of identifying a data stream in a digital television receiver as stated above in Claim 11. Further disclosed is an interface map as stated above in Claim 10 which determines whether an IP address corresponds to a data stream locator associated with a multicast IP data stream and maps one or more locator to one ore more IP address. Mao discloses a URL corresponding to a data stream locator associated with a multicast IP data stream as stated above. The URL reads on the claimed IP address. Because the data stream is associated with and embedded in a television program, the data stream only exists for a specific duration of time. When the program ends and a particular IP-encapsulated data stream subsequently becomes unavailable, this reads on the claimed releasing the IP address for future use when the IP address is no longer being used. The interface map does not contain IP

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addresses for data streams that do not exist. This reads on the claimed instructing the interface map to release the IP address when the IP is no longer being used.

Regarding Claim 24, see Claim 1 above. Further, in such a computer-based system as disclosed by Shoff, it is inherent that there be a computer readable medium storing computer-readable instructions thereon.

Regarding Claim 25, see Claim 1 above.

Regarding Claim 26, see Claim 1 above. Shoff further discloses a processor (92) and a memory (94 and 96).

5. Claims 5, 13 and 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shoff et al. in view of Mao et al. and further in view of U.S. Patent No. 6,580,722 to Perlman.

Regarding Claim 5, Shoff in view of Mao disclose a method as stated above in Claim 1. Shoff further discloses that each of the multicast IP data streams may be packaged and transmitted together with the video stream as one signal from the head end (Col. 10, Lines 18-22). In combination with the multicast IP streams of Mao, this reads on the claimed each of the plurality of multicast IP data streams being associated with the same one of the plurality of television channels. What is not disclosed, however, is that each one of the streams is associated with a single multicast group address. Perlman discloses a method of using multicast groups to include a plurality of devices (Col. 3, Lines 10-37) in order to conserve routing resources by limiting a multicast group to a particular domain or geographical boundary (Col. 1, Lines 51-63). Perlman is evidence that one of ordinary skill in the art would appreciate the use of using multicast groups for

users in a certain coverage area. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Shoff in view of Mao with the multicast group of Perlman in order to transmit data to a specific group of receivers while conserving resources by not flooding data outside the domain (Col. 1, Lines 54-59). This reads on the claimed data streams being associated with a single multicast group address.

Regarding Claim 13, Shoff in view of Mao disclose a method of identifying a data stream in a digital television receiver as stated above in Claim 12. Further, Shoff in view of Mao and further in view of Perlman disclose a method of transmitting data streams associated with a multicast group address as stated above in Claim 5. As stated above, a user may instruct the receiver to read a data stream associated with a data stream locator. This reads on the claimed instructing a tuner that is tuned to a multicast group address associated with the multicast IP data stream to read the data stream associated with the locator.

Regarding Claims 19 and 20, Shoff in view of Mao disclose a method of selecting multicast IP data transmitted in broadcast streams as stated above in Claims 1 and 11. What is not disclosed, however, is specifying a multicast group address associated with the IP address and receiving packets in the multicast IP data stream that are addressed to the multicast group address. Perlman discloses a method of using multicast groups to include a plurality of devices (Col. 3, Lines 10-37) in order to conserve routing resources by limiting a multicast group to a particular domain or geographical boundary (Col. 1, Lines 51-63). Perlman is evidence that one of ordinary skill in the art would appreciate

the use of using multicast groups for users in a certain coverage area. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Shoff in view of Mao with the multicast group of Perlman in order to transmit data to a specific group of receivers while conserving resources by not flooding data outside the domain (Col. 1, Lines 54-59). This reads on the claimed specifying a multicast group address associated with the IP address and receiving packets addressed to the multicast group address.

Regarding Claim 21, Shoff in view of Mao and further in view of Perlman disclose a method of selecting multicast IP data transmitted in broadcast streams as stated above in Claims 1, 10-11 and 19.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew R Demicco whose telephone number is (703) 305-8155. The examiner can normally be reached on Mon-Fri, 9am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Grant can be reached on (703) 305-4755. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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MPH

mrd

December 3, 2004

  
CHRIS GRANT  
PRIMARY EXAMINER